

# United States Patent and Trademark Office

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.	
10/676,735	09/30/2003	Mary Frances Doerner	HSJ920030182US1	7962	
7590 06/29/2004			EXAM	EXAMINER	
Marlin Knight			RICKMAN, HOLLY C		
Hoyt & Knight PO Box 1320			ART UNIT	PAPER NUMBER	
Pioneer, CA 95666			1773		

DATE MAILED: 06/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

1) ☐ Responsive to communication(s) filed on	<u> </u>	Application No.	Applicant(s)
Holly Rickman   1773    - The MAILING DATE of this communication appears on the cover sheet with the correspondence address  Period for Reply    A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.  THE MAILING DATE OF THIS COMMUNICATION.  If the period for reply specified above is less than thaty (30) days, a suply within the database of the coveral period of the reply specified because it is not intropy (30) days, and the considered streety). If the period for reply specified above is less than thaty (30) days, a suply within the database of the communication. If the period for reply specified above is less than thaty (30) days, a suply within the database of the period of the reply in specified streets. The third period for reply is appelled above, the three threets and the period of the perio		10/676,735	DOERNER ET AL.
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A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.  - Extensions of time may be available to make the provisions of 35° CFR 1.35(a). In no event, however, may a rupty be limitely field  - If the period for may be available to make the provisions of 35° CFR 1.35(a). In no event, however, may a rupty be limitely field  - If the period for may be available to make the provisions of 35° CFR 1.75(b). In no event, however, may a rupty be limitely field  - If the period for may be available to make the make the make the statutory minimum of beiny (30) days will be considered limitely.  - If NO period for may be available to make the make the statutory minimum of beiny (30) days will be considered limitely.  - If NO period for may be available to the make the statutory minimum of beiny (30) days will be considered limitely.  - If NO period for may be supplied to the make the statutory minimum of beiny (30) days will be considered limitely.  - If NO period for may be supplied to the statutory minimum of beiny (30) days will be considered limitely.  - If NO period for may be supplied to the statutory minimum of beiny (30) days will be considered limitely.  - If NO period for may be supplied to the statutory minimum of beiny (30) days will be considered limitely.  - If NO period for may be supplied to the maximum statutory (30) days will be considered limitely.  - If NO period for may be supplied to the statutory will will be supplied to the constitution.  - Statutory   The supplied to maximum statutory (30) days will be considered limitely.  - Applied to maximum supplied to maximum statutory and statutory.  - Applied to maximum supplied to maximum statutory and statutory.  - Applied to period field on 30 September 2003 is/are: a) accepted or b) objected to by the Examiner.  - Applied to Papers  - See The drawing (s) field on 30 September 2003 is/are: a) accepted or b) objected to by the Examiner.  - Applied to maximum supplied to maximum supplied to maximum sup		Holly Rickman	1773
A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.  Experiment of the many be enabled used the post-occided of 5°CFR 1.35(d). In no event, however, may a risply be timely filled between the process of 5°CFR 1.35(d) in no event, however, may a risply be timely filled. The pand for risply specified above is less than thery (30) days, a risply within the statutory minimum of thiny (30) days, as will be considered functy.  If the pand for risply specified above is less than thery (30) days, a risply within the statutory minimum of thiny (30) days will be considered function.  Falsen to risply whithin the set of extended period for risply will, by statutory minimum of their process of the statutory minimum of the process of the statutory minimum of the process of the statutory minimum of the statutory mi		pears on the cover sheet with the	correspondence address
If NO period for repy is specified above, the maximum statutory period will apply and will capter SX (6) MONT NS from the military date of this communication. Pattern to recorded period for repy will, by statute, cause the application to become ABANDONED (38 U.S.C.§ 133). Party presence of the communication and patent form adjustment. See 37 CFR 1.704(i).  Status  1) Responsive to communication(s) filled on	A SHORTENED STATUTORY PERIOD FOR REPL' THE MAILING DATE OF THIS COMMUNICATION.  - Extensions of time may be available under the provisions of 37 CFR 1.1 after SIX (6) MONTHS from the mailling date of this communication.  - If the period for reply specified above is less than thirty (30) days, a repl	36(a). In no event, however, may a reply be	timely filed ays will be considered timely.
1)  Responsive to communication(s) filed on	<ul> <li>If NO period for reply is specified above, the maximum statutory period of Failure to reply within the set or extended period for reply will, by statute Any reply received by the Office later than three months after the mailing</li> </ul>	will apply and will expire SIX (6) MONTHS fro c. cause the application to become ABANDON	m the mailing date of this communication.  NED (35 U.S.C. § 133).
2a)  This action is FINAL. 2b)  This action is non-final.  3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.  Disposition of Claims  4)  Claim(s) 1-20 is/are pending in the application. 4a) Of the above claim(s) is/are withdrawn from consideration. 5)  Claim(s) is/are allowed. 6)  Claim(s) 1.5.6.9.13.15.18 and 19 is/are rejected. 7)  Claim(s) 2-4.7.8.10-12.14.16.17 and 20 is/are objected to. 8)  Claim(s) 2-4.7.8.10-12.14.16.17 and 20 is/are objected to. 8)  Claim(s) 2-4.7.8.10-12.14.16.17 and 20 is/are rejected. 7)  The specification is objected to by the Examiner.  4Application Papers  9)  The specification is objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d). 11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.  Priority under 35 U.S.C. § 119  12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a)  All b)  Some * c) None of:	Status		
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1. ☐ Certified copies of the priority documents have been received. 2. ☐ Certified copies of the priority documents have been received in Application No 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.  Attachment(s) 1) ☒ Notice of References Cited (PTO-892) 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  1 ☐ Notice of Informal Patent Application (PTO-152)	<i>,</i> — ,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
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### **DETAILED ACTION**

# Claim Rejections - 35 USC § 112

- 1. The following is a quotation of the second paragraph of 35 U.S.C. 112:
  - The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
- 2. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 recites the limitation "the substrate" in line 1. There is insufficient antecedent basis for this limitation in the claim.

## Claim Rejections - 35 USC § 103

- 3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
  - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 4. Claims 1, 5-6, 9 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Isono et al. (US 2003/0203244).

Isono et al. teach a magnetic recording medium having a circumferentially textured glass substrate, a compressive stress glass layer (corresponds to pre-seed layer), a first and second seed layer formed from a B2 material such RuAl or NiAlB, a CrTi underlayer and a magnetic layer thereon (see paragraphs 13-17, 74-75, and 89). The

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reference fails to disclose a structure having a layer of RuAl and a layer of NiAlB thereon.

The reference teaches that RuAl is a preferred seedlayer material. It would have been obvious to choose NiAlB from the group of suitable B2 seedlayer materials for use as the second seedlayer deposited on the first seedlayer. It would have been obvious to choose this particular alloy from the group of disclosed alloys because each of the materials is functionally equivalent. Substitution of equivalents requires no express motivation as long as the prior art recognizes the equivalency. *In re Fount*, 213 USPQ 532 (CCPA 1982); *In re Siebentritt*, 152 USPQ 618 (CCPA 1967).

5. Claims 15 and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Isono et al. (US 2003/0203244) in view of Abarra et al. (US 6753101).

Isono et al. teach all of the limitations of the claims as detailed above, except for the recording elements for use therewith.

Abarra et al. teach a conventional disk drive structure which includes a magnetic head, an actuator arm for moving the head with respect to the medium and a magnetic recording medium.

It would have been obvious to one of ordinary skill in the art at the time of invention to use the actuator arm and recording head taught by Abarra et al. in combination with the magnetic recording medium taught by Isono et al. in order to form a functional disk drive apparatus.

6. Claims 2-4, 7-8, 10-12, 14, 16-17 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Isono et al. fails to teach the claimed amount of B in the NiAlB layer, the claimed composition of the NIALB layer, the presence of a CrTi layer underneath the RuAl layer, and a magnetic recording layer structure having a first magnetic layer formed from CoCr and a second magnetic layer formed from CoPtCrB separated from the first layer by a spacer. The prior art fails to teach or suggest a motivation to modify the teachings of Isono et al. to arrive at the claimed invention.

#### Conclusion

- 7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ueno (US 6159625) and Lee (US 6740397) are cited as art of interest.
- 8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Holly Rickman whose telephone number is (571) 272-1514. The examiner can normally be reached on Monday-Friday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul J. Thibodeau can be reached on (571) 272-1516. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Holly Rickman
Primary Examiner
Art Unit 1773

hr June 24, 2004